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Working Paper

Characteristics of Farm Entrants and Their Enterprises in Southern Ontario for the Years 1966 to 1976

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Characteristics of Farm Entrants and Their Enterprises in Southern Ontario for the Years 1966 to 1976

Number 6

by
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PREFACE

This is part of a wide series of studies looking at farm entry, entrants, and the establishment problems of new farmers in Ontario agriculture being undertaken in conjunction with Dr. Fuller of the Rural Development Outreach Project and Geography Department, University of Guelph. Data was obtained from the 1966-71-76 Census of Agriculture Match, Statistics Canada. This paper was undertaken as part of the Master of Arts requirements in the Department of Geography and the Centre for Resources Development at the University of Guelph. Thanks also to Ray D. Bollman, Agriculture Division, Statistics Canada and Dr. Julius Mage, Geography Department, University of Guelph.

ABSTRACT

This study examined the process of farm entry by focusing on the entry period, the transition from farm turnover to established farming status. In order to determine if there are problems of entry that derive from changes in the structure of farming, specific objectives were to determine if the acquisition and allocation of resources by farm entrants are significantly different than established farmers, and to describe characteristics of farm entry in Southern Ontario.

Resources of farmers were identified by utilizing data from the 1966-71-76 Census of Agriculture Match, Statistics Canada. Results indicate that most entrants were initiating enterprises and utilizing resources different than established farmers. Important characteristics that determined differences are that entrants were typically younger, had a higher incidence of off-farm work, a higher tenancy rate, lower gross farm sales, and tended to operate a smaller land base than the general population of Southern Ontario farmers. Examination of entrants as a group reveal important findings with respect to the entry process in Southern Ontario. Age and off-farm work were identified as important descriptors of entry. There is also evidence that not all entrants have been following the traditional process to reach full-time farming status as significant numbers reported low farm sales. These results have facilitated a broad description of farm entry in Southern Ontario and raised important questions for further study.

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SECTION ONE

Background: The Entry Process in Farming

Introduction

An important aspect in agricultural development is the turnover of production units which determines the availability of resources for agricultural production at the farm level.

Farm turnover is the means by which new operators enter farming and through which farms and farmland can be lost or preserved. When a farm becomes available due to a death, retirement, or a decision to leave the land, that unit can be taken up by a new operator, acquired by an established farmer (and perhaps divided up), abandoned, or acquired by a non-farm user.

A farm can be considered as a complete resource unit, requiring both human and physical inputs: land, labour, capital and management. The quality, quantity and balance of these inputs determine the productive nature of the enterprise. The ability to accumulate these resources in order to farm at the time of farm turnover depends on the characteristics of the resource unit, the socio-economic position of the potential operator, and the health of the agricultural economy. When individuals acquire the resources to farm at the time of farm turnover, they enter the farming system as 'farm entrants'. At the time of acquiring a farm or becoming a farm operator, the allocation and management of resources may not be of sufficient quantity, quality, or balance to immediately achieve an established farming status. This period of adjustment or transition to full commercial farming may be referred to as the entry period.

In recent years the agricultural sector has undergone a number of changes and it is of importance to understand to what extent these adjustments affect the renewal of the farm resource.

The decline in the number of farms is not a good indicator of the actual process of farm turnover. Although the number decreased by 21,085 from 1966 to 1976 in Ontario, the gross change comprised 52,915 operators who started farming (Entry) and 74,002 who stopped (Exit) (Table 1). These figures are high and indicate that large numbers are involved in farm turnover.

Table 1.

COMPARISON OF NET AND GROSS CHANGES
IN THE NUMBER OF CENSUS-FARMS,
1966 to 1976 IN ONTARIO

Census-Farm Operators 1966	Census-Farm Operators 1976	Net Change 1966-76	Gross Exit 1966-76	Gross Entry 1966-76
109,805	88,720	-21,085	-74,002	52,915

Source: Census of Agriculture Match 1966-71-76.

Conceptual Models of the Entry Process

In order to study the effects of agricultural change on farm turnover, there is a need to conceptualize entry as a process. Several conceptual models have been put forward to explain at different levels the turnover of farms and farm operators and their development towards established farming.

The traditional concept of the farm entry process has been described as the Agricultural Ladder which farm entrants climbed to

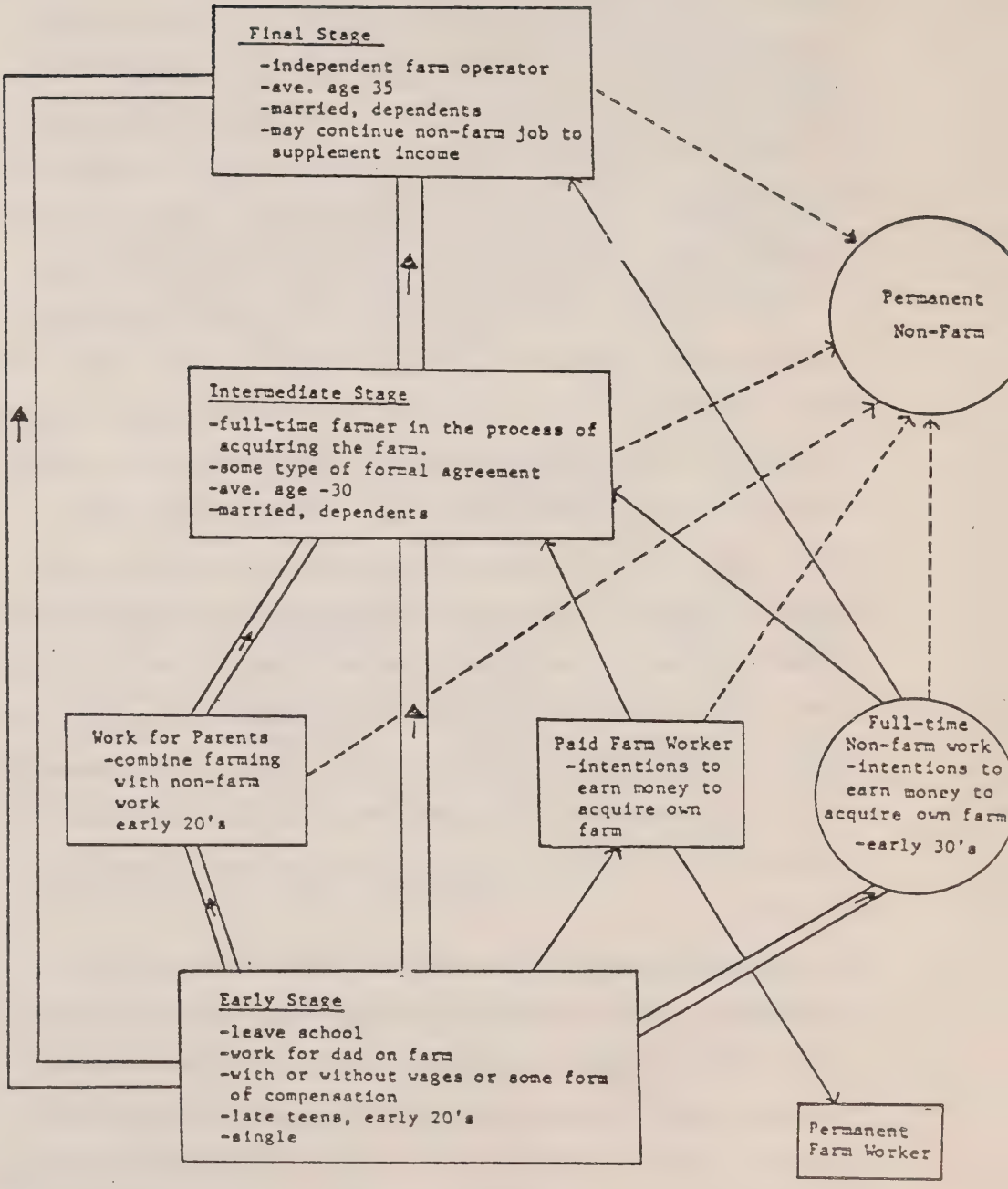
become full-time independent farmers (Abell 1961). As diagramatized in Figure One, the hypothetical ladder comprises three stages: the early stage consisting of work on the family farm with father in charge; the intermediate stage where potential operators are in the process of acquiring a farm by some type of formal agreement plus the accumulation of capital and machinery; and the final stage where they become full-time independent farm operators. Individuals who inherit a farm unit are able to move from the early stage directly to the final stage.

In response to difficulties acquiring the resources through traditional means, there are alternative ways of moving from the early to the intermediate stage. Potential operators may combine farming on the parental farm with non-farm work in order to accumulate capital which will allow movement up the ladder. Others may leave the parental farm and work as paid farm workers with the intention of accumulating capital and gaining farm experience which will allow them to acquire a farm in the future. Some may leave the family farm and undertake full-time non-farm work with the intention of earning the capital to acquire their own farm, thereby bypassing the intermediate stage. It is debatable how many who take this route will remain as permanent non-farm workers and how many manage to enter farming at a later date.

The agricultural ladder concept is useful as a basis for an understanding of the standard entry process but its description is far from complete. There is no consideration of the means of entry by those with a non-farm background, nor an indication of the quality or quantity of resources required to progress up the ladder. The concept does emphasize that entry is a process which has a number of variations

Figure One

THE AGRICULTURAL LADDER - FARM BORN PARTICIPANTS



Source: Diagram based on the ideas of Abell (1961).

to it and therefore, should not be seen as a singular or automatic progression.

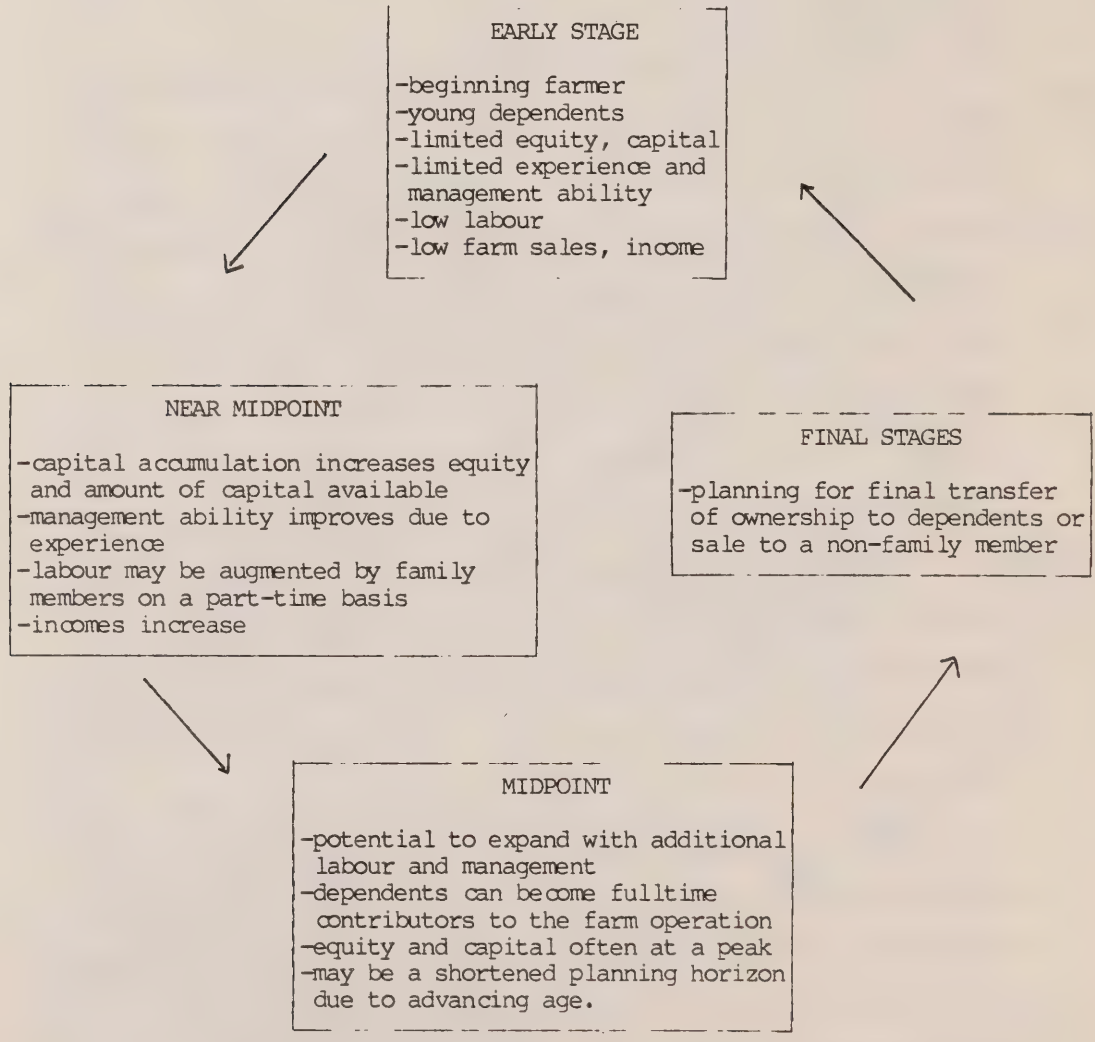
The Business life-cycle theory postulates that a farm business goes through phases of a life-cycle in the same manner and at the same rate as the operator and family (Boehljie, 1973). In addition, it indicates the resources required in terms of land, labour, capital and management ability.

The cycle, illustrated in Figure Two, clearly indicates that in the early stage both the farmer and the enterprise exhibit characteristics different from those in the later stages. In this schema, the beginning farmer has limited equity, capital and limited experience and management ability which results in lower efficiency and subsequently lower farm sales and income. Through time, entrants are able to accumulate further capital as well as improve their management ability. Eventually in the hypothetically closed cycle, the farm is turned over to a new operator (by inheritance or sale) and the cycle begins again.

The Heady and Jensen model describes the farm entry process as movement through categories of farm size. In the authors' view, a typical entrant rents a medium-sized commercial family farm, accumulates stock and eventually buys the holding. The operator is able to move up the category to a large-scale commercial family farm and finally a large-scale operation. Movement through these categories is dependent on management ability. Those starting with a large amount of capital or in partnership with their fathers will begin in the large-scale commercial family farm category. This model considers alternative methods of entry such as tenancy, and some of the effects of management ability and capital accumulation, but does not give a complete description in order

Figure Two

CONCEPTUAL STAGES IN THE BUSINESS-LIFE CYCLE THEORY



Source: Boehljie, M., "Entry-Growth-Exit Processes in Agriculture," The Southern Journal of Agricultural Economics, 1973.

to assess the entry process.

The three models conceptualize entry as movement through steps or categories where the quality, quantity and balance of inputs are adjusted to reach full-time farming status.

Effects of Agricultural Change on the Entry Process

Modernization and commercialization of agriculture have brought about significant changes in the structure of production and organization of farms. One of the key factors affecting agriculture has been the increased availability of high technology permitting greater per unit area and per capita productivity. This has resulted in an increase in the average acreage per farm and an increase in the proportion of farms of larger size. Since the amount of agricultural land is limited, there has subsequently been a decrease in the total number of farms. Statistics indicate that in Ontario, the average area of land per farm increased from 126 acres in 1941 to 174 acres in 1976 (Table 2). Within the same time period, the number of farmers decreased by 50%, from

Table 2

AVERAGE SIZE OF FARMS, ONTARIO AND CANADA
1941 TO 1976

Area Occupied per Farm (acres)	Year				% Changes 1941-76
	1941	1961	1971	1976	
Ontario	126	153	168	174	38
Canada	237	359	463	499	110

Source: Daviault, R., Selected Agricultural Statistics for Canada, 1977, Table 5. p.13.

Table 3

NUMBER OF OCCUPIED FARMS
1941 TO 1976--ONTARIO AND CANADA

	Year				% Change 1941-76
	1941	1961	1971	1976	
	No.	No.	No.	No.	
Ontario	178,204	121,333	94,722	88,801	50
Canada	732,858	480,903	366,128	338,578	54

Source: Daviault, R., Selected Agricultural Statistics for Canada, 1977 Table 2, page 6.

178,204 to 88,801.

Additional problems identified in Canadian Agriculture in 1969 were: low farm incomes, over-production, too many small non-viable farm units, regional disparities and problems of prices and markets (Canadian Agriculture in the 70's). To date, much of the work concerned with these problems in Ontario has focused on low incomes in farming. Government solutions have had both welfare and efficiency objectives. For example, the Farm Enlargement and Consolidation Programs have acquired and released land formerly owned by inefficient producers and transferred it to the more efficient operators (Fuller 1975). Many such programs have been based on economic policy. What appears to be lacking (although implied in some studies like Noble 1973 and Fuller 1976) is the need to look at agricultural problems in a more comprehensive resources framework. Consideration of the difficulties experienced by those attempting to assemble the resources to become established farm

operators has the potential to eliminate some of the present problems in agriculture.

Coincident with technological change has been a growth in the amount of capital required to assemble the necessary resources for the operation of a farm unit. The growth in farm size, escalating land values, and the increasing complexity of inputs and farm organization all present potential entry problems associated with capital accumulation. Table Four shows the average amount of capital needed per farm for major resources of land, buildings, machinery and livestock in Ontario.

Table 4

AVERAGE TOTAL CAPITAL VALUE PER FARM IN ONTARIO
1941 TO 1976

Year	Total ($)	Land and Buildings ($)	Implements and Machinery ($)	Livestock and Poultry ($)
1941	6,676	4,692	844	1,140
1951	16,996	9,468	2,970	4,558
1961	30,837	21,200	4,774	4,863
1971	72,819	54,723	9,396	8,696
1976	173,060	141,520	18,380	13,159

Source: Daviault, R., Selected Agricultural Statistics for Canada, Table 34, page 55.

In 1976, the average total capital value of farm resources was $173,000, more than double that of the previous 5 years.

Census data show that the average age of farm operators is increasing (Table 5). One can speculate on the impact this changing

age distribution will have on the supply of available farms as well as rejuvenation of the industry. The trend suggests that there will be an increased number of farmers leaving agriculture by retirement or death.

Table 5

NUMBER AND PROPORTION OF FARM OPERATORS BY AGE GROUPS
CANADA, 1941 TO 1971

Year	Age of Farm Operator							
	<25		25-34		35-69		70+	
	#	%	#	%	#	%	#	%
1941	20,942	3.1	113,004	16.8	496,382	73.7	43,472	6.4
1951	21,759	3.5	113,152	18.2	455,021	73.2	31,418	5.1
1961	12,354	2.6	68,026	14.2	372,612	77.4	27,911	5.9
1971	8,649	2.4	46,886	12.8	292,517	79.9	18,076	4.9

Source: Census of Agriculture, Statistics Canada

To maintain the same level of land in agriculture, these farmers must either be replaced or their resources combined with those of others. There is a need to determine the implications of this trend and to establish the need for, and sources of, future farmers. There will always be young farmers entering through inheritance, but if young aspirants with no family assistance experience difficulty in entry, or are unable to enter farming, the age distribution may become increasingly skewed towards higher ages. From the point of view of renewal or rejuvenation of the industry, it can be put forward that there is a need for farm turnovers to young operators.

In Canada, the most common unit of production is the family farm.

Farming has long been regarded as a 'way of life,' as well as a business, and therefore there was a desire to keep farm assets within the family. This was especially true with respect to land, many parents choosing to transfer land to the next generation rather than sell their assets and bequeath money. Through time this has limited the opportunities for entrants (especially those with a non-farm background) and has not guaranteed that the best qualified people, in terms of management ability have entered farming (Boehljie, 1973).

From these trends it can be assumed that entry into farming is becoming increasingly difficult mainly due to changes in the structure of farming; the scale,availability, and capital requirements for farm acquisition and operation.

Study Objectives

Considering the importance of farm turnover to the future maintenance and development of the agricultural industry and the increasing problems of entry that derive from change in agriculture, there is a need to understand more thoroughly the entry process. This includes not only the point of actual farm turnover but also the period when new entrants are becoming established.

Given the increasing difficulties of the entry process, questions arise as to who has been able to enter farming and what resources these entrants have utilized in the process. It is important to know if farm entrants during the entry period are significantly different in their acquisition and allocation of resources than established farmers. This will help to determine if the entry period is a step to a full-time operation.

The purpose of this study is to address these questions by utilization of data from the Census of Agriculture. In selection of the data, ideas and measures will be drawn from the three models of the entry process. Therefore, the focus of the remainder of the study will be:

- To establish if entry is a significant phenomenon
- To describe farm entry characteristics in Southern Ontario

SECTION TWO

A Comparison of Entrant and Continuing Farmers in Ontario 1966 - 1976

In order to enter farming, individuals must acquire a combination of human, physical and capital resources which will allow them to farm in the conventional manner (commercial, full-time). It is hypothesized that there are difficulties in accumulating the resources necessary for farming and therefore entrants may initiate enterprises where the quantity, quality or balance of inputs (land, labour, capital and management) are different than those of established farmers.

It is of limited value to study the entry process without examining it in the context of the overall farming system. Only with a knowledge of differences between the resources of entering farmers and those who are already established, can the process of entry be evaluated. The purpose of this section is to compare the resources of entrant farmers with those already in farming and identify the combination of human inputs and physical resources during the period of entry. Differences between the types of farm units will be examined to determine if the entry process is an important phenomenon which merits further attention.

Data Source

Entrants and continuing farmers were identified by utilizing data on identified farm operators generated from the 1966-71-76 Census of Agriculture Match,* Statistics Canada. Measures from the census are indicators of the resources acquired during the entry period.

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*The Census of Agriculture Match was developed by Ray D. Bollman, Agriculture Division, Statistics Canada, 1977.

The procedure matched operators who responded to the Census of Agriculture Questionnaire for the years 1966 and 1976 on the basis of their name and address; an entrant being identified as an individual who responded as a census-farm operator* in 1976, but was not recorded as an operator in 1966; while a continuing farmer responded on both the 1966 and 1976 questionnaires as a census-farm operator. This means that an entrant became an operator after 1966, while a continuing operator was farming throughout the ten year period.

The data have certain limitations which must be considered in the interpretation of results. The match tends to underestimate those who entered farming during the time period. Since the census records only one operator per farm, it is expected that the 'senior operator' of a family agreement or partnership would respond. As a result, in a case where a young entrant had recently established a partnership with an older continuing operator, only the latter, as the more senior, would be identified and this would not be recorded as a farm turnover. In addition, the match considers responses for two specific periods of time (1966-1976) and farms may have changed hands more than once during this time.

Entrants are identified on the basis of a ten year time period which means that these operators could in fact have been in farming anywhere from 1 to 9 years. The characteristics reported in 1976 thus describe resources of farm units which have recently been acquired, as well as units which have been operating for a period of up to 9 years in length. It may be assumed that many 'entrants' farming for over 5 years

*In the 1976 census a farm was defined as a ranch or other agricultural holding of one acre or more with sale of agricultural products during the previous year of $1,200 or more.

would have potentially acquired the status (and characteristics) of conventional full-time commercial farm operators.

Discriminant Analysis

In order to test if the human and physical resources of entrant farmers are significantly different from those of continuing farmers, a number of measures were taken from the Census of Agriculture Match for each of the census divisions of Southern Ontario counties. The divisions are listed in Appendix A. Selection was based on availability, and the characteristics described in the 3 concepts of the Entry Process depicted in Section One. These variables represent characteristics of farm investment and income, size of business, ownership and organizational characteristics, as well as the age of the operators, which are thought to be important indicators of characteristics of the entry period. Table Six categorized the variables according to the differences that they were expected to indicate. The measures were converted to means and proportions to overcome problems of scale in the comparison of large and small census divisions. As a result, the variables being tested were the mean characteristics of the two groups by census division.

Discriminant analysis was selected because the technique permits statistical determinantion of the degree of difference between two or more groups. If the groups are distinct, the method will indicate the varaibles responsible for the differences, and the relative contribution of each to the discrimination of the groups. The null hypothesis being tested was that the groups are similar.

Results of the analysis indicate that the probability of accepting

Table 6

SELECTED VARIABLES EXPECTED TO DISTINGUISH DIFFERENCES BETWEEN ENTRANTS AND CONTINUING FARMERS IN SOUTHERN ONTARIO, 1966-1976

Variable	Expected Difference
1. Socio Indicator - mean age	entrants will be younger
2. Economic Indicator - mean total capital value	value for entrants will be lower
- mean value of land and buildings	
- mean value of equipment	
- mean days of off-farm work	number for entrants will be higher
3. Size of Business - mean total area	acres will be smaller for entrants
- mean acres of improved land	
- mean acres of rented land	
4. Farm Type* - % dairy; % cattle; % hogs; % poultry; % wheat; % small grain; % field crops; % fruits and vegetables; % miscellaneous specialty; % livestock combination; % field crop combination; % other combination; % no type (sales less than $2,500)	
5. Ownership Characteristics - % owner; % tenant; % part-owner part tenant	
6. Organization Characteristics - % individual owner; % partnership; % family corporation; % non-family corporation.	

Source: Census of Agriculture Match, 1966-71-76, Statistics Canada

*51.0% or more of the total potential sales of agricultural products were obtained from the sale of this product type.

the null hypothesis was zero. Therefore, it can only be accepted that there is a significant difference between the groups on the basis of the selected variables (at the .05 level of significance). The twelve variables that contributed significantly to the differences between the groups and the discriminant function are as follows:

Table 7

VARIABLES THAT DISCRIMINATE BETWEEN ENTRANTS AND CONTINUING FARMERS IN ONTARIO 1966-76

Variables	Discriminant Coefficient*
Mean age	.925
Mean days of off-farm work	-.859
% Part Owner part tenant	.659
% No type of farm (Sales <$2,500)	-.608
% Non-family corporation	-.607
% Dairy farms	.424
Mean total sales	.414
% Individual owner	.398
% Tenants	-.350
Mean acres improved land	.350
Mean total land area	.346
% Partnerships	-.319

*Accepted at the .05 level of significance

More detailed examination of these discriminating variables through descriptive statistics provides further insight into the characteristics of farm entry.

Examination of the Discriminating Variables

Age: The variable with the highest contribution to differences between the two groups was the average age of operators. A comparison of the age distribution of entrants and continuing farmers in Ontario (Table 8) indicates that entrants are typically younger than continuing farmers. Twenty-nine percent of the entrants were less than 34 years of age, as compared to 4% of the continuing farmers. It is probable that for many, farming would be their first occupation, with most entering after high school. Others might have worked several years to accumulate sufficient capital assets to acquire a farm.

Although younger than continuing farmers, 70% of those who entered farming were nevertheless older than 35 years of age. The bulk in the middle age group (35-59) may reflect the difficulties that young people

Table 8

FARM ENTRANTS AND CONTINUING FARMERS
BY AGE CATEGORY 1966-1976

Age Group in 1976	Number Entering 1966-76	%	Number Continuing 1966-76	%
<34	22,579	29	1,856	4
35-59	24,692	58	30,068	65
>59	5,719	13	13,886	30
Total	42,989	100	45,811	100

Source: Census of Agriculture Match 1966-71-76, Statistics Canada

have in acquiring sufficient resources to farm. For example, the capital

commitment required to farm, may prolong the period before a young aspirant can acquire the amount to begin farming (see Table 4).

A surprising 13% of the entrants were older than 59 years of age. These are assumed to have retired from a non-farm job and entered farming for 'retirement purposes,' operating small scale or hobby farms.

Off-Farm Work: A comparison of the number of days of off-farm work indicates that holding another job is an important factor in the entry process in Ontario. Fifty-one percent of those who entered farming between 1966 and 1976 reported some type of off-farm work. compared to 31% of the continuing farmers (Table 9). The type of off-farm work can be described as part-time (less than 228 days) and full-

Table 9

A COMPARISON OF ENTRANTS AND CONTINUING FARMERS
BY NUMBER OF DAYS WORK OFF-FARM
IN ONTARIO 1966 - 1976

Number of Days Off-Farm Work	Number Entering #	%	Number Continuing #	%
<72	2,703	7	3,857	8
73-228	7,094	16	4,941	11
229+	11,939	28	5,561	12
Total	21,836	51	14,359	31
None	21,259	49	31,452	69

Source: Census of Agriculture Match 1966-71-76, Statistics Canada

time (greater than 228 days). Twenty-three percent of the entrants reported less than 228 days off-farm work. Part-time work may be used as a means of assisting entry by maintaining an adequate family income

or meeting debt payment. Full-time off-farm work is also a significant feature in entry as indicated by the fact that 28% reported more than 228 days of off-farm work. It is assumed that there will be two types in this latter category: those who acquire a portion of the farm resources and work full-time off the farm until they are able to assemble all the resources or assets to farm full-time, and those who acquire a farm and maintain permanent off-farm employment.

On the basis of the statistics, one can conclude that off-farm work is being used by significant numbers of people to facilitate entry into farming. The statistics also reveal that part-time farmers in agriculture are mainly entrants with 21,836 entrants reporting off-farm work, compared to 14,359 continuing farmers (Table 9).

Farm Organization: The majority of entrants and continuing farmers in Ontario operate 'individual or family farms'* (89% and 93% respectively). Since these are the predominant types, it is expected that they would also be the most frequent forms of organization at the time of entry (Table 10). The absolute proportions are very close, yet appear as 'discriminating' between the two groups. This may be a function of the fact that the Discriminant Analysis runs are proportions at the census division level, but the proportions in Table 10 are for all the entrants and continuers in Ontario.

The types of organization which discriminated between the groups were the non-family corporations and partnerships. The proportion of entrants in these types is low, only 1% in incorporated business and 6% of the partnerships. These values may be due to aforementioned discrepancies in the data which underestimate the number of entrants who

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*Included as operated privately by an individual or family were holdings operated by or for an individual regardless of whether owned, rented or managed.

held partnerships in farms.

Table 10

FARM ORGANIZATION OF ENTERING AND CONTINUING FARMERS
1966 TO 1976

Farm Organization	Number Entering 1966-76		Number Continuing 1966-76	
	#	%	#	%
Individual or Family Farm	38,197	89	42,423	93
Partnership	2,551	6	1,969	4
Incorporated Business				
- family corporation	1,408	4	1,322	3
- non-family corporation	518	1	87	-
Other	31	-	4	-
Total	42,989	100	45,811	100

Source: Census of Agriculture Match 1966-71-76; Statistics Canada

Ownership Characteristics: The statistics indicate that there are significant differences between ownership characteristics of the two groups in terms of tenancy (Table 11). Tenancy agreements provide an alternative means of acquiring land resources other than through purchase. A higher proportion of entrants were tenants compared to continuing farmers (9% and 3% respectively). Both entrants and continuing farmers reported a relatively large proportion who were part owner-part tenant (21% and 29%). It is assumed that both groups initially purchased a land base and rented additional land to increase their operational scale.

Enterprise Type: The proportion of farms not typed and typed as

TABLE 11

OWNERSHIP CHARACTERISTICS OF ENTRANTS
AND CONTINUING FARMERS IN ONTARIO
1966-1976

	Number of Entrants 1966-1976		Number of Continuers 1966-1976	
	#	%	#	%
Owner	30,141	70	31,244	68
Tenant	3,937	9	1,308	3
Part-Owner Part-Tenant	8,910	21	13,260	29
Total	42,989	100	45,811	100

Source: Census of Agriculture Match 1966-71-76, Statistics Canada

dairy farms were also identified as discriminating between the groups.

Statistics indicate that the largest proportion of entrants (33%) reported farm types classified as 'no type,' "those units having sales of less than $2,500 per annum" (Table 12). This suggests that a significant number of entrants operate small scale 'hobby' and 'back to nature' farms which have low sales. Dairy farms also discriminated between the groups with 12% of the entrants engaged in this enterprise type as compared to 23% of the continuing farmers. This difference may be explained by two points. Dairy farms may not be obtainable for new farmers because quota restrictions limit availability. A high capital investment is also needed for this type of enterprise which demands specialized resources and modern technology requirements that limit the numbers able to acquire them at the outset.

Table 12 shows other farm types. A large proportion of entrants operated small grain (15%) and cattle farms (17%). Entry may be easier

in these enterprise types because they are less specialized and do not require costly equipment.

'No type,' that is, small volumes of farm sales, and fewer operators in dairying, are important descriptors of entry into farming.

Table 12

TYPE OF FARM REPORTED BY ENTRANTS AND CONTINUING FARMERS IN ONTARIO 1966 TO 1976

Farm Type	Number of Entrants		Number of Continuing Farmers	
	#	%	#	%
No type (Sales less than $2,500)	14,366	33	6,979	15
Cattle	7,123	17	11,232	25
Small grains	6,287	15	7,158	16
Dairy	5,170	12	10,450	23
Hogs	2,199	5	2,266	5
Fruits and vegetables	1,908	4	1,692	4
Miscellaneous speciality	1,517	4	928	2
Mixed livestock	1,259	3	2,401	5
Poultry	898	2	762	2
Other mixed	767	2	723	2
Wheat	499	1	476	1
Mixed field crops	66	-	104	-
Total	42,989	100	45,811	100

Source: Census of Agriculture Match 1966-71-76, Statistics Canada

Gross Farm Sales: The fact that a large proportion of entrants reported a farm type with sales less than $2,500 warrants further investigation.

The size of gross farm sales can be regarded as an indicator of the

scale of business. If entry is regarded as a situation where the combination of inputs and resources are insufficient, there is a limited potential for producing adequate gross farm sales. As indicated in figure three, there is a large proportion of entrants with sales less than $10,000. This reflects the high number of 'no type' farms with low sales.

There are entrants with sales comparable to continuing farmers. This is especially evident in the $100,000 category with 5% of both groups reporting. These represent entrants who were able to acquire adequate resources (through family assistance, or accumulation prior to entry) which are capable of producing high gross farm sales.

Table 13

ACRES OWNED BY ENTERING AND CONTINUING FARMERS
IN SOUTHERN ONTARIO 1966 - 1976

Acres Owned	Number Entering 1966-76		Number Continuing 1966-76	
	#	%	#	%
<70	15,046	36	7,629	17
70-129	11,302	26	11,733	26
130-179	4,834	11	6,741	15
180-239	4,337	10	6,863	15
240-399	4,616	11	8,169	18
400-559	1,622	4	2,838	6
>560	1,232	3	1,839	3
Total	42,991	100	45,814	100

Source: Census of Agriculture Match 1966-71-76, Statistics Canada.

Acres Owned

The final figure that discriminated between the two groups was the amount of land operated. As shown by Table Thirteen, almost two-thirds of the entrants operated farms less than 130 acres in size, compared to 43% of the continuing farmers.

The proportion of entrants in each category between 130 and 559 acres is smaller than for continuing farmers. At the same time, both groups report 3% of the operators with greater than 560 acres. This indicates that some entrants are able to acquire large acreages, but on the whole, entrants will tend to farm smaller acreages of land than the general population of Ontario farmers.

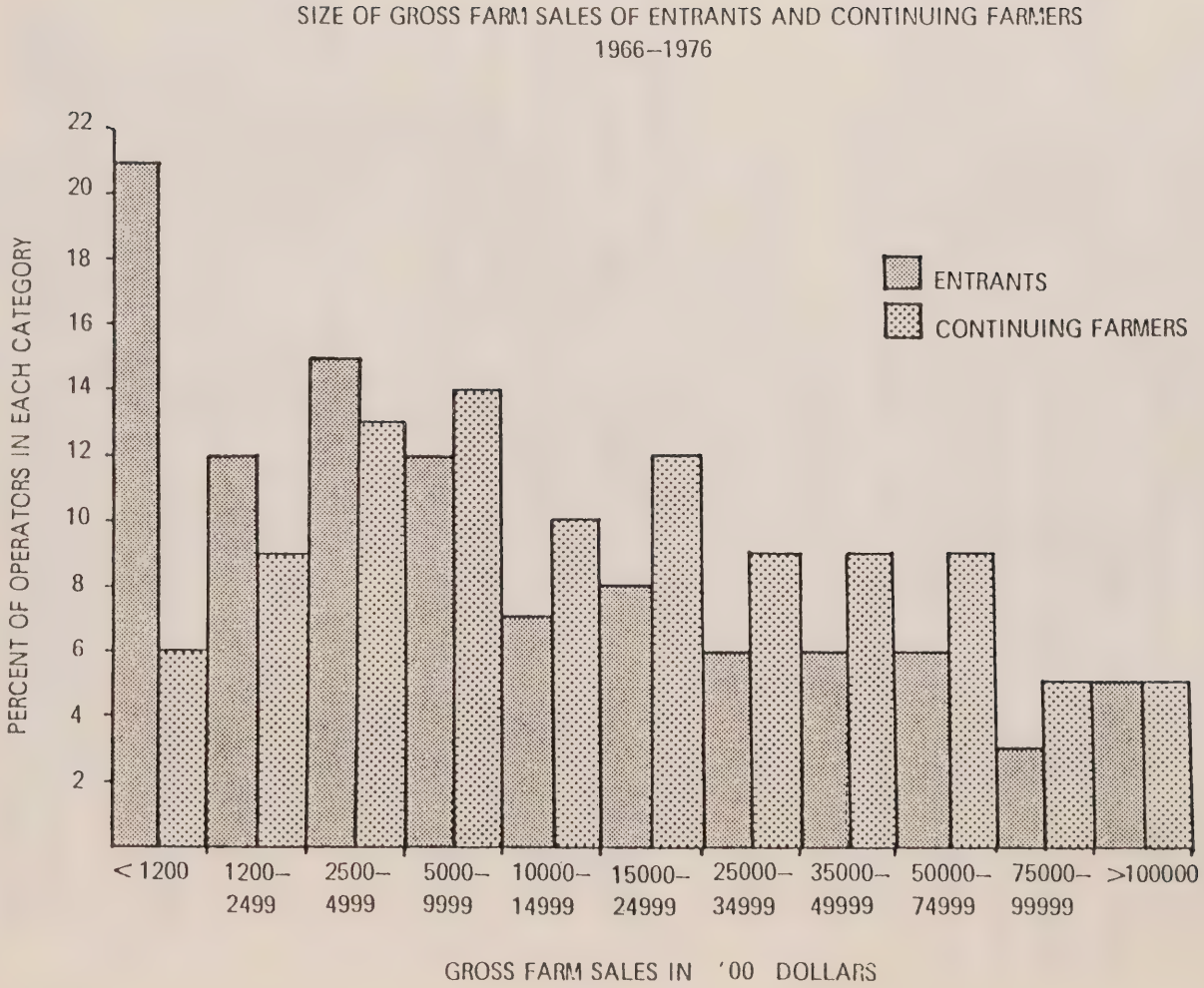
Summary

A comparison of the characteristics of entrants and continuing farmers shows that there are significant differences between the two groups. Indicators of difference were generally as expected with entrants being typically younger, operating smaller acreages, and tending to be tenants more often than the general population of Ontario farmers.

Examination of entrants as a group, reveals important findings with respect to the entry process in Ontario. Two-thirds of those who entered were older than 35, with the bulk 35-59 years of age (58%). This may indicate that young entrants are experiencing a number of difficulties. Off-farm work is facilitating entry for a large proportion of new operators. In addition, almost half of the part-time farming in Ontario is being undertaken by entrants.

An important indicator of the features of new farmers is the

Figure 3


SIZE OF GROSS FARM SALES OF ENTRANTS AND CONTINUING FARMERS
1966–1976
PERCENT OF OPERATORS IN EACH CATEGORY
22
20
18
16
14
12
10
8
6
4
2
ENTRANTS
CONTINUING FARMERS
< 1200
1200–2499
2500–4999
5000–9999
10000–14999
15000–24999
25000–34999
35000–49999
50000–74999
75000–99999
>100000
GROSS FARM SALES IN '00 DOLLARS

proportion with sales less than $2,500 (33%). The small volume of farm sales suggests that there are a large number acquiring small-scale farm operations such as 'back to nature' and 'hobby.' This feature merits further investigation. The combination of the large number with low sales, and the tendency for off-farm work may indicate that many are entering the farming system with a much lower productivity than those already established. From the point of view of renewal of farming, there is a need to know more about the relationship between the human inputs and physical resources assembled during the period of entry.

SECTION THREE

Farm Entry in Southern Ontario

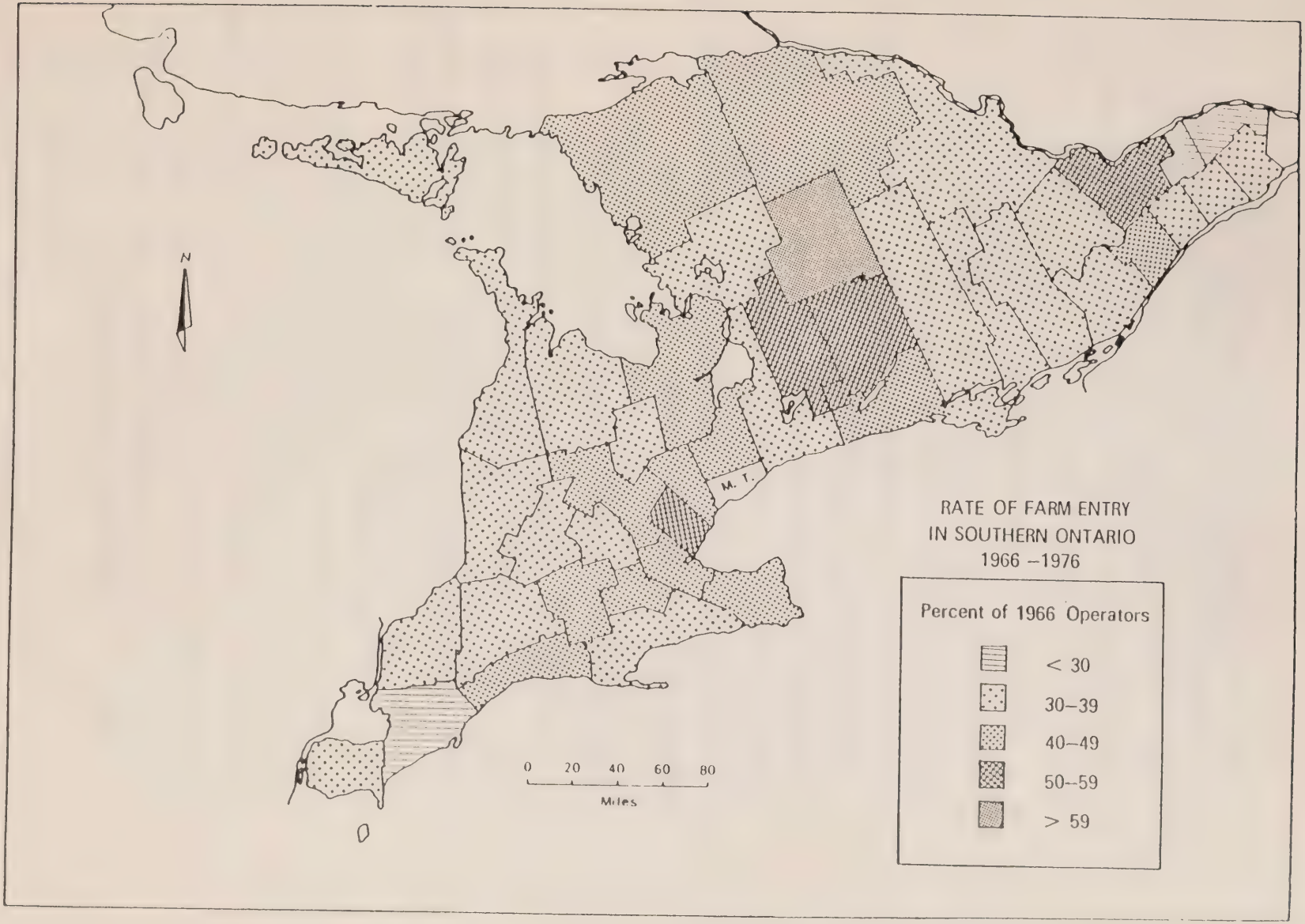
Introduction

Farm production in Southern Ontario has been described as comprising a number of regions, based on combinations of physical resources and human inputs.* Such a distribution raises a question of whether the resources required for the entry process will differ. If this were the case, the entry process would theoretically be associated with different factors, such that there may be regions with attributes which are particularly conducive for entry (and eventual establishment in farming) and others where the entry period will be more difficult.

This hypothesis is generally supported by the 1966 to 1976 entry rates (the number who entered from 1966 to 1976 divided by the total number of operators in 1966) which reveal that the rate of entry was not evenly distributed throughout Southern Ontario. As indicated in Figure Four, there is no distinct pattern of spatial distribution although there are some concentrations of entry. There was a high proportion of entrants in the 'Urban Arc' and three counties in the 'Shield Area' stand out as the regions with the highest rate of entry (greater than 50%). These are regarded as areas where farming has undergone a number of changes due to factors associated with urban

*Planning for Agriculture in Southern Ontario, identified four agricultural regions: the Shield Area with a poor land base, low farm sales and an older population; Eastern Ontario, characterized by relatively good sales, conservative attitudes and relative isolation of the region; Southwestern Ontario, which has the highest productivity due to good sales and a favourable climate; and the 'Urban Arc' which is affected by the external factors of high land prices, uncertainty and speculation due to advancing urbanization. (pages 266-271).

Figure 4


N
M. T.
0 20 40 60 80
Miles
RATE OF FARM ENTRY
IN SOUTHERN ONTARIO
1966 –1976
Percent of 1966 Operators
< 30
30–39
40–49
50–59
> 59

expansion and adjustments to the poor land base of the shield.

Throughout the remaining census divisions, the rate of entry was generally lower—less than 40%. This distribution suggests that the more viable agricultural areas such as Southwestern Ontario have less opportunities for entry into farming, as reflected by lower turnover.

The purpose of this section is to identify the combination of human and physical resources accumulated in the entry period and to determine how this varies spatially in Southern Ontario. Factor analysis was used to reduce the number of independent measures relating to the use, management and availability of resources which were then entered into a hierarchical grouping analysis. The results represent groups of census divisions which are similar in characteristics and are thus suitable as a basis for the discussion of these characteristics as they vary across Southern Ontario.

Distributional Characteristics of Farm Entry

The input into the analysis consisted of 37 variables over 45 observations (Southern Ontario census divisions). The variables are listed in Table Fourteen. Factor analysis was used to define the significant inter-relationships between the selected variables and identify the underlying factors responsible for variation among them.

The analysis resulted in five factors which are interpretable and explain 63.3 percent of the variance in the data. Significant factor loadings and the percent variance explained by each factor are presented in Table Fifteen. The five factors summarize the structure of 'entrant agriculture' and were interpreted to represent the following types:

Factor 1 - miscellaneous specialty farms

Table 14

SELECTED VARIABLES TO COMPARE THE CHARACTERISTICS OF ENTRY SITUATIONS IN SOUTHERN ONTARIO

1.	Rate of entry (number of entrants 1966-1976 divided by the number of operators 1966)
2.	Percent less than 25 years of age
3.	Percent 25-34 years of age
4.	Percent 35-59 years of age
5.	Percent greater than 59 years of age
6.	Percent reporting dairy farms
7.	Percent reporting cattle farms
8.	Percent reporting hog farms
9.	Percent reporting poultry farms
10.	Percent reporting field crops
11.	Percent reporting fruit and vegetable farms
13.	Percent reporting mixed livestock farms
14.	Percent reporting mixed crop farms
15.	Percent reporting no type (sales less than $2,500)
16.	Percent reporting less than 72 days off-farm work
17.	Percent reporting 73-228 days off-farm work
18.	Percent reporting greater than 228 days off-farm work
19.	Percent reporting no days off-farm work
20.	Percent with a total capital value less than $24,949
21.	Percent with a total capital value $24,950-$49,949
22.	Percent with a total capital value $49,950-$99,949
23.	Percent with a total capital value $99,950-$149,949
24.	Percent with a total capital value $149,950-$199,949
15.	Percent with a total capital value greater than $199,950
26.	Percent reporting less than 70 acres
27.	Percent reporting 70-179 acres
28.	Percent reporting 180-399 acres
29.	Percent reporting 400-759 acres
30.	Percent reporting greater than 760 acres
31.	Percent reporting individual ownership
32.	Percent reporting partnerships
33.	Percent reporting a family business
34.	Percent reporting a non-family business
35.	Percent owners
36.	Percent tenants
37.	Percent part owner, part tenant

Table 15

VARIMAX ROTATED FACTOR MATRIX:
SIGNIFICANT LOADINGS AND PERCENT VARIANCE ACCOUNTED FOR BY EACH FACTOR

Variable	Factor Loading
Factor 1 23.10% variance MISCELLANEOUS SPECIALTY FARMS	
Percent of entrants who are tenants	.895
Percent of entrant farms with a total capital value of $149,950-$199,949	.853
Percent of entrant farms with a total capital value greater than $199,950	.805
Percent of entrants with a family corporation	.790
Percent of entrants with miscellaneous specialty farms	.693
Percent of entrants with a non-family corporation	.625
Percent of entrants with farms less than 70 acres	.600
Percent of entrant farms with a total capital value of $49,950-$99,949	-.869
Percent of entrant farms with a total capital value of $24,950-$49,949	-.744
Percent of entrants who were owners	-.714
Percent of entrant farms 180-399 acres	-.631
Factor 2 13.75% variance AGE OF ENTRANT	
Percent of entrants less than 25 years of age	.858
Percent of entrants 25-34 years of age	.784
Percent of entrants with hog farms	.744
Percent of entrants with mixed livestock farms	.675
Percent of entrants 35-59 years of age	-.9022
Factor 3 9.44% variance CATTLE EMPHASIS	
Percent of entrant farms greater than 760 acres	.950
Percent of entrants reporting farms 400-759 acres	.8028
Percent of entrants reporting cattle farms	.7135
Factor 4 9.46% variance FULL-TIME FIELD CROPS	
Percent of entrants reporting partnerships	-.912
Percent of entrants reporting no days off-farm work	-.604
Percent of entrants with field crop farms	-.537
Percent of entrants reporting an individual organization	.769
Percent of entrants reporting over 229 days off-farm work	.523
Factor 5 9.70% variance HORTICULTURE AND POULTRY	
Percent of entrants with fruit and vegetable farms	.826
Percent of entrants with poultry farms	.622
Percent of entrants with farms 70-179 acres	-.670

Factor 2 - age of entrant

Factor 3 - cattle emphasis

Factor 4 - full-time field crops

Factor 5 - horticulture and poultry

Interpretation was based on the factor loadings of variables within each factor. The distribution of each factor was mapped and is shown in Appendix C.

The five factors represent independent measures from which the structure of entrant farm situations can be developed. The factor score values were subjected to hierarchical grouping in order to summarize and obtain groups of census divisions where component characteristics are similar on the basis of the five main factors. The result was a five group optimal solution. Members of each group are mapped on Figure Five.

As indicated on the map, there are several distinct, well defined regions representing types of entry situations. Interpretation of the meaning of each of the groups proceeded from the relative common association that group members displayed with the five input factors. The association led to the labelling of the type of situation represented by each group.

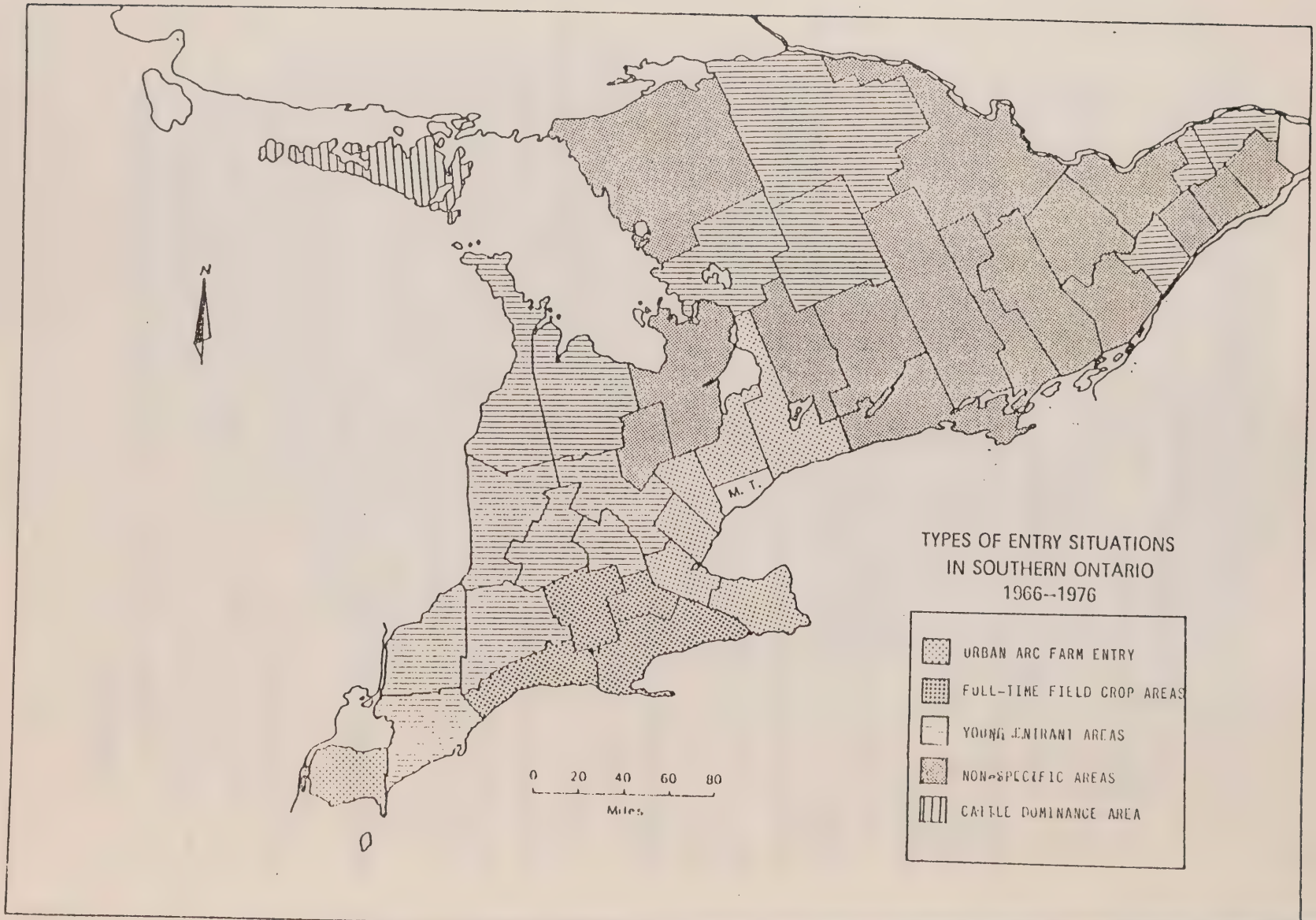
TYPES OF ENTRY SITUATIONS

Group One - Urban Area

The entry situation in the census divisions forming the "Urban Arc" and Essex County are described by the association of the following variables:

- a low ownership commitment to farming due to tenancy and corporate businesses

Figure 5


N
M. T.
0 20 40 60 80
Miles
TYPES OF ENTRY SITUATIONS
IN SOUTHERN ONTARIO
1966--1976
URBAN ARC FARM ENTRY
FULL-TIME FIELD CROP AREAS
YOUNG ENTRANT AREAS
NON-SPECIFIC AREAS
CATTLE DOMINANCE AREA

- a high capital investment
- small acreages (less than 70 acres)
- miscellaneous specialty farms and specialized horticulture and poultry in the Niagara Peninsula
- a high proportion of entrants aged 35-59

The variables combine under Factor 1 to describe agriculture in an urbanizing area. The low level of commitment to farming reflects the adjustment of entrants to the high land values, speculation and uncertainty which characterizes this type of area. The high non-land capital inputs are related to specialized types of farming which require expensive scientific and technological inputs. These farm types include miscellaneous specialty (greenhouses, nurseries and horse farms), intensive poultry operations and specialty fruit areas in the Niagara Peninsula. The influence of Windsor on Essex County would explain why entrant farm types exhibit 'urban' farming characteristics, and why it is in the 'Urban Arc' Group.

A high proportion of entrants tend to be from 35 to 59 years of age in these areas (Factor 2). The high capital investment and uncertainty due to urban expansion may be a factor discouraging young farmers in rural-urban areas.

Group Two - Full-Time Field Crops

The combination of factors to describe this group exhibit farm types similar to Group 1 (miscellaneous specialty farms), but the predominance of partnerships, full-time farming and field crops (Factor 4) reflects the differences between the groups. As indicated on Figure Five , the group is contiguous, being comprised of Essex, Oxford and Brant Counties, and the Regional Municipality of Haldimand-

Norfolk. Although these areas have a similar resource base, they are far enough away from the urban influence that other farm types such as field crops tend to dominate.

Group Three - Young Entrants

Group 3 is defined by a combination of factors. The loading of the factors differentiates between groups of census divisions and the result is a large contiguous area in southwestern Ontario; a grouping of three divisions in south central Ontario; and several scattered divisions in southeastern Ontario (Figure Five).

A high positive relationship of Factor 2 defines young entrants (less than 35) who operate hog and mixed livestock farms in southwestern Ontario.

The negative loading of Factor 1 for the two smaller groups of census divisions describes medium sized farms which have a low capital value. Variables in Factor 1 have a positive loading with Wellington, Waterloo and Middlesex in southwestern Ontario, which describe farm types in the urban/rural area. The combination of factors suggests that the areas within Group 3 comprise numerous types of farming, and are distinguished as a group due to the high proportion of young entrants.

Group Four - Non-Specific

The fourth group is relatively contiguous, comprising most of the census divisions in eastern Ontario. The relationship of the factor scores do not describe distinct types of farms, since many of the scores were neutral. Nevertheless, characteristics of farms which

were described include: relatively low total capital values (negative scores in Factor 1) and a range of farm sizes from 130 to 399 acres (negative Factors 1 and 5). Some moderate to negative loadings of Factor 2 indicate a high proportion of older entrants in this area.

Group Five - Cattle Dominance

The high positive loadings of Factor 3 single out Manitoulin Island as an area where entrants operate cattle farms. The overwhelming dominance of cattle farms serves to create a 'unique situation' within Southern Ontario. Hence, Manitoulin Island formed a group of one.

Table Sixteen presents some actual attributes of the main variables which contributed to the structure of farm entry situations identified by the factor analysis. These figures represent the mean value of each group of census divisions. Nevertheless, the differences in these values support the objective grouping results.

Table 16

SPECIFIC CHARACTERISTICS OF ENTRANT FARMS IN EACH ENTRY SITUATION

	Mean Age	Farm Size (mean acres)	Mean Total Capital Value (100 $)	Mean Days Off-Farm Work
Type 1	46	97	2654	116
Type 2	43	130	2264	78
Type 3	42	154	1498	102
Type 4	48	178	1216	111
Type 5	45	541	926	82

Source: Census of Agriculture Match, 1966-71-76, Agriculture Canada.

SUMMARY

The spatial distribution of the 1966-76 entry rate indicated that the highest rates are in the 'urban arc' and the shield area of Southern Ontario. In these areas, farming has been changing due to the effects of urban expansion in the former, and low prosperity in the latter, but these do not appear to be discouraging entrants. The high entry rates may be explained by the population stability of areas. Assuming that opportunities to acquire resources--especially land, are based on the stability of the farm population, then areas which are unstable would tend to have large numbers of operators leaving farming and there would be opportunities for 'aspirants' to acquire the resources. In the more prosperous farming areas in Southwestern Ontario, there are fewer opportunities for entry because the farm population is more stable. In summary, entrants will enter farming when they are able to acquire the resources to farm. Since there are limited opportunities in the viable agricultural areas, operators have been entering farming in other regions where the resources are more readily available.

The spatial distribution of entrant farms, as indicated in the grouping analysis tends to reflect the structure of farming in Southern Ontario. For example, those who entered farming in areas of urban influence had a tendency to acquire miscellaneous specialty farms which are typical of rural-urban areas. The association of variables also reflects the nature of the data used since the variables selected describe the structure of farming and, as a result, variables associated with a specific farm type may group together.

The association of age variables distinguishes between entrants. A relatively high proportion of young entrants were located in the more

prosperous agricultural areas, while older entrants were associated with the 'Urban Arc' and to some extent with Eastern Ontario. This factor suggests that there are differences between entrants based on age and age-associated factors.

SECTION FOUR

Conclusions

The objective of the study was to examine the process of farm entry by focusing on the period of entry, that is the period of transition from farm turnover to established farming status (commercial, full-time). Models of the entry process conceptualize this as a period of resource acquisition and accumulation, and the desire on behalf of recent entrants to reach the ultimate status of established farmers. In recent years, modernization and commercialization have brought about changes in the structure of production and organization of farms. Trends indicate that entry is becoming increasingly difficult mainly due to changes in the structure of farming, the scale, availability, and capital requirements for farm acquisition and operation.

Results of the study reveal that for most, the entry period functions in much the same way as the categories described by the models. During the period, entrants were initiating enterprises and utilizing resources that were different than those of established farmers. Important characteristics that determined differences between entrants and continuing farmers can be summarized as follows:

- entrants were typically younger;
- entrants had a higher incidence of off-farm work;
- entrants had a higher tenancy rate;
- entrants received a lower volume of gross farm sales;
- entrants tended to operate a smaller land base.

Although most entrants followed the transition described by the models, there is also evidence that not all entrants have been following the 'traditional' process and reach full-time farming status. For

example, one-third of the entrants reported sales less than $2,500. Many of these would be in the transition period, but this high proportion could also include those who entered farming for 'back to nature' and 'hobby' purposes. For these, entry may be a 'means to an end' with no desire to alter their farm type to farm in the conventional manner.

The analysis revealed important findings with respect to the entry process in Ontario; with age and off-farm work characteristics identified as important descriptors of entry. Age characteristics distinguished between entrants, with most being from 35 to 59 years of age (58%). Although these entrants are not considered old, the high proportion may reflect the increased period of time that young people require to accumulate the resources to enter farming. The spatial distribution of farm entry situations indicates that there is a relatively high proportion of young entrants (less than 35) located in the more prosperous agricultural areas, and older entrants in the 'Urban Arc' and parts of eastern Ontario. Such a distribution may represent variations within the group of entrants based on age and age-associated factors, and this warrants further investigation.

An important indicator of the features of farm entrants is the amount of off-farm work. Sixty percent of all the off-farm work by Ontario farm operators is being undertaken by new operators. The high proportion suggests that off-farm work is not only being used to facilitate entry, but others may have entered farming for the sole purpose of part-time farming, and have no aspirations to become full-time. The indication that a large proportion of entrants may not intend to farm in the traditional full-time manner should be investigated to determine the affect this will have on the overall farming system in the future.

Consideration of the data base must be taken into account when interpreting the results of the study of farm entrants. The use of secondary data revealed important characteristics of the entry process, but the description is not complete. Inferences concerning the behaviour of individuals in the entry process were made from the relationship of data pertaining to an aerial unit, in this case either the census divisions or the Province of Ontario. In order to fully describe the characteristics of entrants, there is a need to incorporate behavioural elements such as the motives and desires of individual entrants. Therefore, there is a need to empirically research the entry process with information from individual farm units. Nevertheless, use of secondary sources of published data has facilitated a broad description of farm entry in Ontario and has raised some important questions for further study.

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A DESCRIPTION OF THE 1966-1971-1976 CENSUS OF AGRICULTURE MATCH

The 1966-1971-1976 Census of Agriculture Match is a longitudinal micro-data base generated from a name-and-address match of individual census-farm operators in the 1966 and 1971 Census of Agriculture and similar match between the 1971 and 1976 Censuses of Agriculture. The reason for doing the match was to use each subsequent Census of Agriculture to update the master list of farmers used by the Agriculture Statistics Division. The generation of a longitudinal micro-data base was a by-product of the generation of an unduplicated master list of census-farm operators. Details of the match are available from the Agriculture Statistics Division* and a summary of the results have been published.**

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* Ray D. Bollman(1977), "The 1966-1971 Census of Agriculture Match: Methodology and Analysis of the Quality of the Match", Unpublished paper, Agriculture Division, Statistics Canada, April 28.

** Canada. Statistics Canada(1980), "Exit, Entry and Structural Change of Census-farm Operators, 1966-1971-1976: Results from the 1966-1971-1976 Census of Agriculture Match", in Farm Net Income, Preliminary 1979 (Catalogue 21-202).

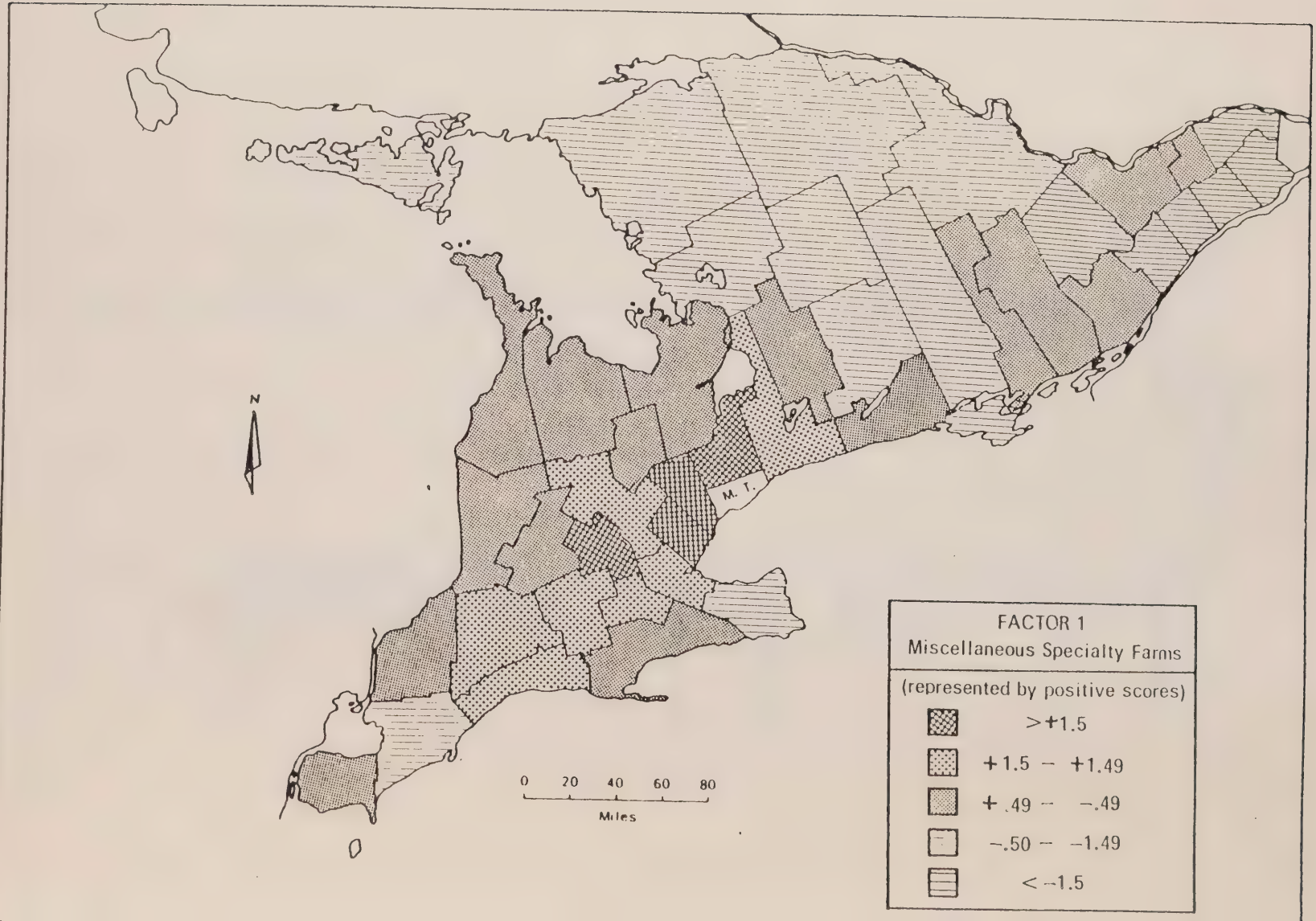
APPENDIX B

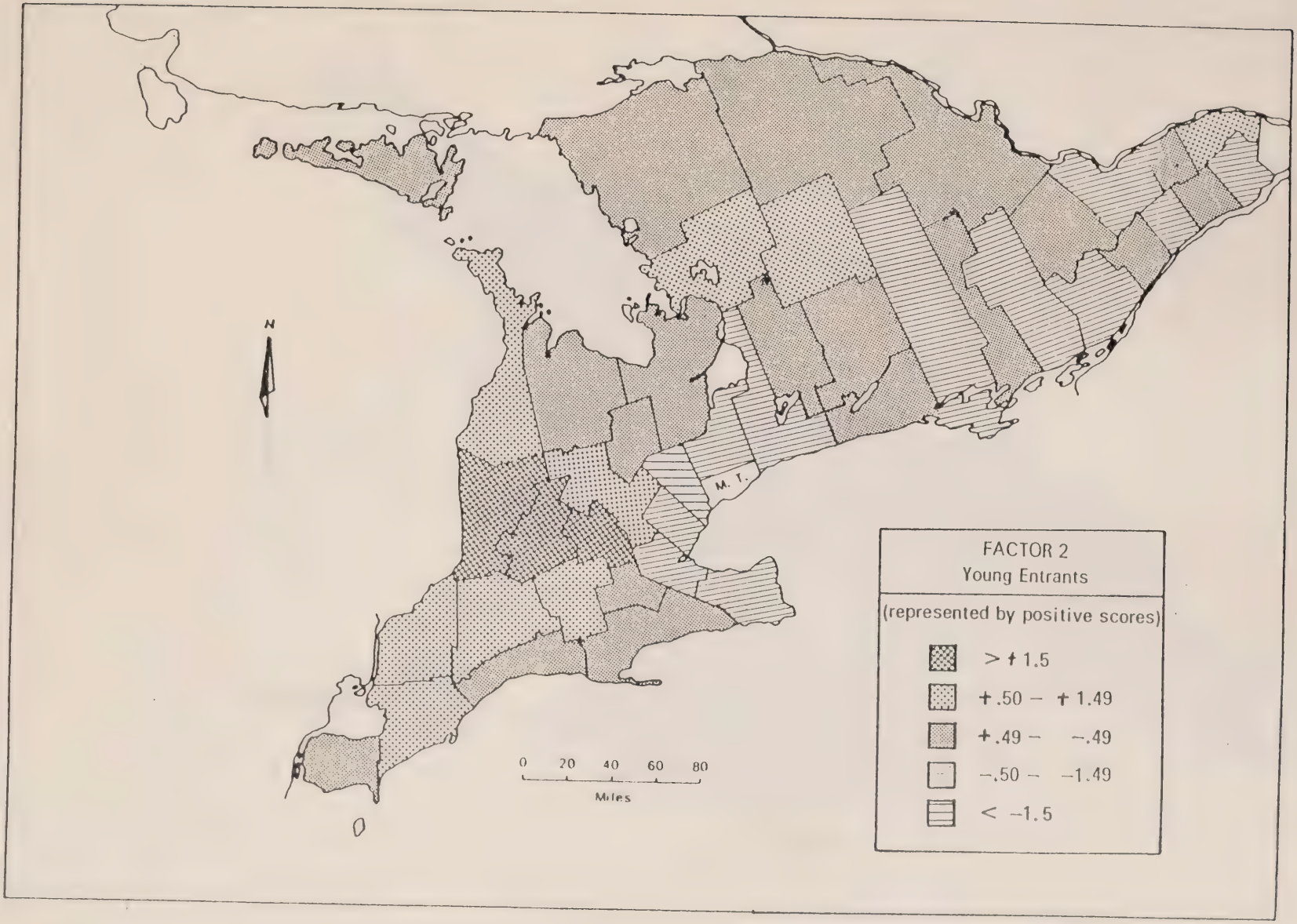
CENSUS DIVISIONS OF SOUTHERN ONTARIO-1976

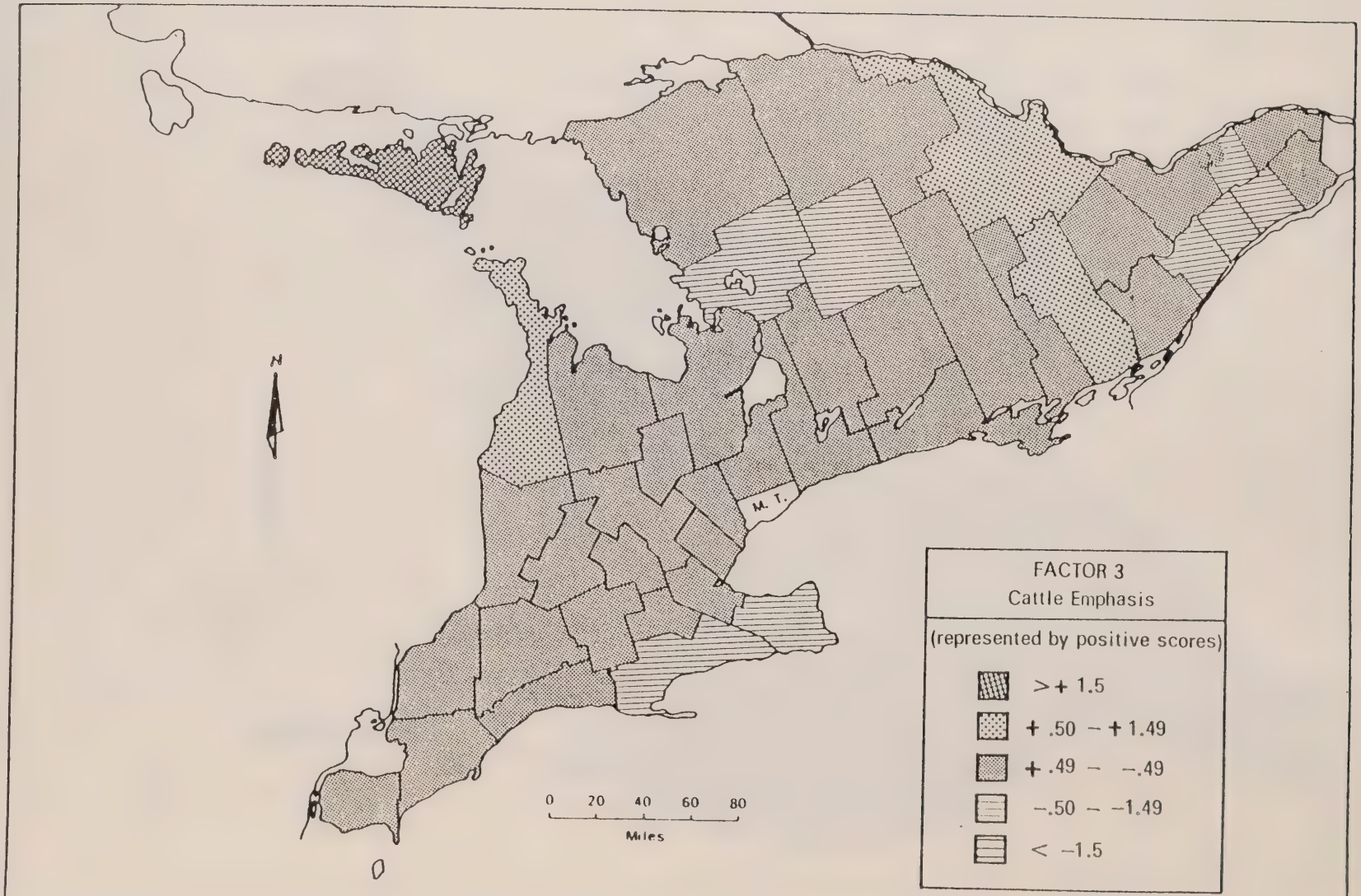
Census Division Number	Census Division
02	Brant
03	Bruce
05	Dufferin
06	Dundas
07	Durham
08	Elgin
09	Essex
10	Frontenac
11	Glengarry
12	Grenville
13	Grey
14	Haldimand-Norfolk
15	Haliburton
16	Halton
17	Hamilton-Wentworth
18	Hastings
19	Huron
21	Kent
22	Lambton
23	Lanark
24	Leeds
25	Lennox & Addington
26	Manitoulin
27	Middlesex
28	Muskoka
29	Niagara
30	Nipissing
31	Northumberland
32	Ottawa-Carleton
33	Oxford
34	Parry Sound
35	Peel
36	Perth
37	Peterborough

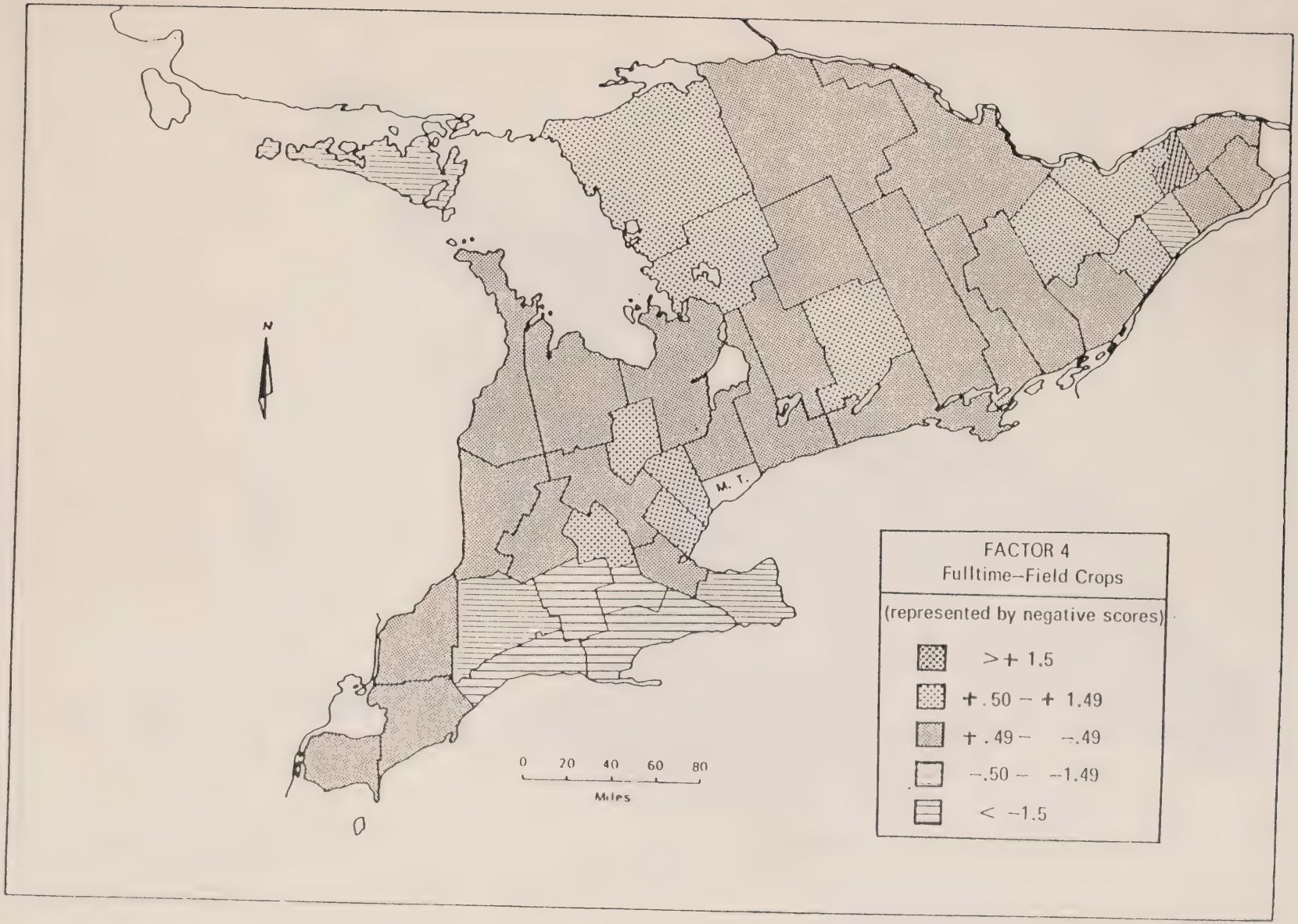
(Continued)

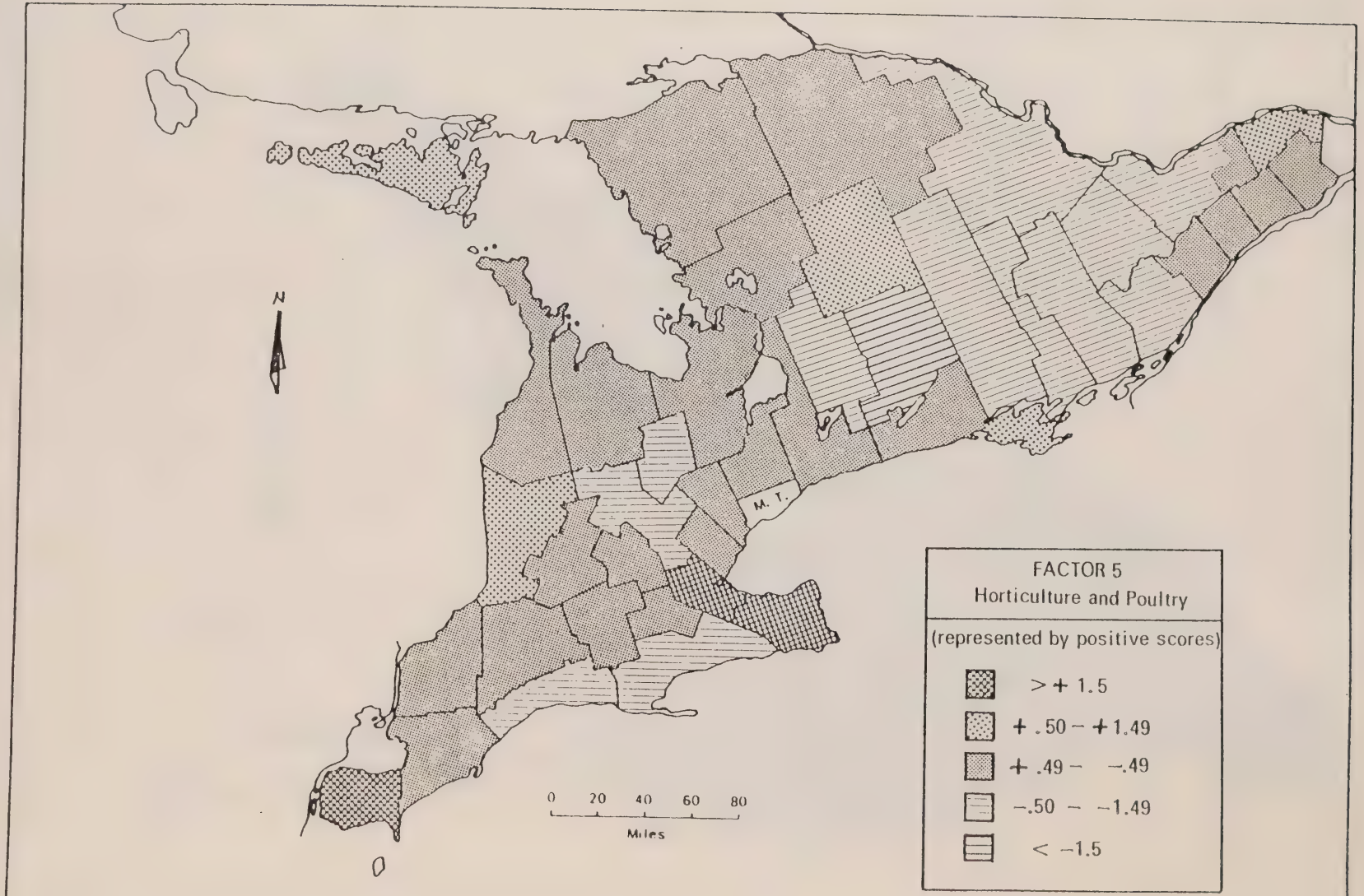
38	Prescott
39	Prince Edward
41	Renfrew
42	Russell
43	Simcoe
44	Stormont
49	Victoria
50	Waterloo
51	Wellington
52	York


N
M. T.
0 20 40 60 80
Miles
FACTOR 1
Miscellaneous Specialty Farms
(represented by positive scores)
>+1.5
+1.5 – +1.49
+ .49 – –.49
–.50 – –1.49
< –1.5


N
M. T.
0 20 40 60 80
Miles
FACTOR 2
Young Entrants
(represented by positive scores)
> +1.5
+.50 – +1.49
+.49 – –.49
–.50 – –1.49
< –1.5


N
M. T.
0 20 40 60 80
Miles
FACTOR 3
Cattle Emphasis
(represented by positive scores)
> + 1.5
+ .50 – + 1.49
+ .49 – –.49
–.50 – –1.49
< –1.5


N
M. T.
0 20 40 60 80
Miles
FACTOR 4
Fulltime–Field Crops
(represented by negative scores)
> + 1.5
+ .50 – + 1.49
+ .49 – –.49
–.50 – –1.49
< –1.5


N
M. T.
0 20 40 60 80
Miles
FACTOR 5
Horticulture and Poultry
(represented by positive scores)
> + 1.5
+ .50 – + 1.49
+ .49 – –.49
–.50 – –1.49
< –1.5